October 21, 1964

TO: [redacted] STAT

FROM:

SUBJECT: Decision on Goal for Future Work on P.I. Performance Research Study

In response to your request of 4 August 1964, we are presently performing a study to specify PI performance as a function of ground resolution (over the 10 to 72 inch range of nadir, high sun angle, black and white, non-stereo photography). To obtain data for you as quickly as possible, we have restricted our targets (keys) to aircraft features such as wing form, number of engines, landing gear configuration, etc. Our selection of this key was based on the relatively large variety of aircraft types and replication of specific aircraft in the available photography. We plan to complete this study in early November and at that time present a briefing and technical report on the results. Following this effort, we plan to repeat the experiment with two additional keys: ships and electronics. Our goal is to complete this task by the end of the year and again give a briefing and technical report on the results.

While we are performing the effort described above, we would like to collect photography for research to be performed after 1 January, 1965. Since the type of scenes photographed and the method and conditions of photography are dictated by the specific goals of the research, it is now necessary to establish the goals for future work.

During April, 1964, [redacted] and I discussed STAT and considered in great detail a large number of factors affecting the performance of photointerpreters (see attached list). This group also discussed the topic with you and [redacted] STAT As a result of these discussions, it was then decided and indicated in our proposal to study, over a period of two years, three factors: (1) ground resolution (2) stereo vs. mono, and (3) color vs. black and white.

Since the formation of these initial plans, your priority rating of questions in need of answers has changed and, very likely, will continue to change. However, restrictions imposed on this work by the time-consumption of obtaining material, making gems, developing performance measures, testing and response analysis and reporting, require that we now establish our research goals for most of 1965.

Therefore, will you please review your requirements and describe to me, before 6 November, if possible, and in as much detail as possible, and preferably in order of importance (priority), those factors affecting PI performance which you want us to examine in 1965?

[redacted] STAT

[redacted] STAT

cc: [redacted]

DDR-Dupe

LIST OF SOME FACTORS AFFECTING PI PERFORMANCE

(Taken from [redacted] Proposal, April 64)

STAT

1. Ground Resolution
2. Stereo vs. Mono
3. Color vs. Black and White
4. Type of Stereo
   - --equal quality pairs
   - --mixed quality pairs
   - --black and white pairs
   - --color pairs
   - --color/black & white pairs
   - --angle of photography
5. Contrast Reduction due to Haze
6. Spread Function Shape
   - --symmetrical
   - --non-symmetrical
7. Granularity
8. Sun Altitude
9. Sun Azimuth
10. Obliquity
11. Response Perseveration
12. Real Color vs. False Color
13. [redacted] STAT
14. Viewing Equipment/Scale
15. Viewing Time
16. Searching
17. Collateral Information
18. Scene Change Detection
19. Season/Terrain
20. Individual Differences